Handwashing, Standards in WASH Interventions, Waste Management in Emergencies, Environmental Health and Sanitation Effect on Nutrition and Health Planning.

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Assignment 2.

Abstract

There are an estimated 1500 bacteria per square centimeter of skin on your hand. One of the best ways to prevent bacteria related illnesses and other infectious diseases is to wash your hands with soap and water.

Water, sanitation and sanitation are critical determinants for survival in the initial stages of disaster and people should be provided with the minimum quantity of safe water for drinking, cooking and personal and domestic hygiene.

Poor waste management has a multiple negative consequences on communities, it can adversely affect health and the wider environment as well as impact on the well-being beyond the spread of diseases. During an emergency, the disposal of solid waste can become a critical issue as existing disposal and collection methods are likely to cease or heavily be disrupted.

Malnutrition is a global problem in which there are factors other lack of food, for example infections. Drinking water is often a source of diseases because of tis poor quality and its scarcity. Inadequate sanitary conditions lead to the death of 1.5 million children each year worldwide, with 88% of these deaths due to diarrhea which is often linked to insufficient quantities and qualities of water to enable a minimum of hygiene and also the absence of toilets which in turn lead to contamination of drinking water and water source in general.

Health service planning aims at improving the health status of a given population while safeguarding equity and fairness of access as well as responsiveness of the health system to the perceived needs of the community. This needs a proper understanding of the community who are going to use the health services so that the services are according to what they need.

Keywords: Handwashing, Waste Management, WASH Interventions, Environmental Health, Heath Planning and vulnerable groups.

Handwashing, standards in WASH interventions, waste management in emergencies, environmental health and sanitation effect on nutrition and health planning.

# Why is hand washing an essential aspect in WASH interventions?

Hands are the main pathways of germs transmission during eating, greeting, breast feeding, preparing food and receiving health care. A number of diseases can be spread from one person to another by contaminated hands. These diseases include gastrointestinal infections like salmonella and respiratory infections like influenza.

People gets germs onto their hands after using toilets or change od diaper or handling raw meat, touching an object having germs because someone coughed or sneezed on it or was touched by some other contaminated object. When these germs get onto hands and are not washed off, they can be passed from one person to another and make people sick. Washing hands prevents illnesses and spread of infections to others.

Keeping hands clean is one of the most important steps we can take to avoid getting sick and spreading germs to others. Hands washing with soap removes germs from hands. This helps to prevents infections because;

* People frequently touch their eyes, nose and mouth without even realizing it. Germs can get into the body through the eyes, nose and mouth and make us sick.
* Germs from unwashed hands can get into the foods or drinks while people prepare or consume them. Germs can multiply in some foods or drinks, under certain conditions and make us sick.
* Germs from unwashed hands can be transferred to other objects like handrails, table tops or toys and then transferred to another person’s hands.
* Removing germs through hand washing therefore helps prevent diarrhea and respiratory infections.

Teaching people hand washing helps them and their communities stay healthy. Hand washing education in the community (CDC);

* Reduces the number of people who get sick with diarrhea by 23-40%.
* Reduces diarrhea illnesses in people with weakened immune systems by 58%.
* Reduces respiratory illnesses like cold in the general population by 16-21%.
* Reduces absenteeism due to gastrointestinal illnesses in school by 29-57%.

About 1.8 million children under the age of 5 years die each year from diarrheal diseases and pneumonia, the two top killers of young children around the world. Hand washing with soap could protect about 1 out of every 3 young children who get sick with diarrhea and almost 1 out of 5 young children with respiratory infections like pneumonia.

Hand washing helps battle the rise in antibiotic resistance. Preventing sickness reduces the amount of antibiotics people use and the likelihood that antibiotic resistance will develop. Hand washing can prevent about 30% of diarrheal-related sicknesses and about 20% respiratory infections. Antibiotics are often prescribed unnecessarily for these health issues. Reducing the number of these infections by washing hands frequently helps prevent the overuse of the antibiotics. Hand washing can also prevent people from getting sick with germs that are already resistant to antibiotics and that can be difficult to treat.

A thorough had washing include watering hands with clean running water and applying soap, lathering hands by rubbing them together with soap. Be sure to lather the back of your hands, between the fingers and under your hands, scrub your hands for at least 20 seconds, rinse your hands well under clean running water, dry your hands using a clean towel or air dry them, use paper towel to turn off the tap of water after you have finished.

## What are the main standards in WASH interventions in emergencies?

This chapter is divided into six main sections; Hygiene promotion, Water Supply, Excreta Disposal, Vector Control, Solid Waste Management and Drainage.

**Hygiene promotion.**

**Standard**- All facilities and resources provided reflect the vulnerabilities, needs and the preferences of the affected people. Users are involved in the management and maintenance of hygiene facilities where appropriate.

**Water supply.**

**Standard 1** – All people have safe and equitable access to a sufficient quantity of water for drinking, cooking and personal and domestic hygiene. Public water points are sufficiently close to households to enable use of the minimum water requirement.

**Standard 2**- Water is palatable and of sufficient quality to be drunk and used for personal and domestic hygiene without causing significant risk to health.

**Standard 3**- People have adequate facilities and supplies to collect, store and use sufficient quantities of water or drinking, cooking and personal hygiene and to ensure that drinking water remains safe until it is consumed.

**Excreta Disposal.**

**Standard 1**- People have adequate number of toilets, sufficiently close to their dwellings, to allow them rapid, safe and acceptable access at all times of the day and night.

**Standard 2**- Toilets are sited, designed, constructed and maintained in such a way to be comfortable, hygienic and safe to use.

**Vector Control.**

**Standard 1**- All disaster-affected people have knowledge and the means to protect themselves from disease and nuisance vectors that are likely to represent a significant risk to health or well-being.

**Standard 2**- The number of disease vectors that pose a risk to people’s health and nuisance vectors that pose a risk to people’s well-being are kept to an acceptable level.

**Standard 3**- Chemical vector control measures are carried out in a manner that ensures that staffs, the people affected by the disaster and the local environment are adequate protected and avoids creating resistances used.

**Solid Waste Management.**

**Standard**- People have an environment that is acceptably uncontaminated by solid waste, including medical waste and have the means to dispose of their domestic waste conveniently and effectively.

**Drainage.**

**Standard**- People have an environment in which the health and other risks posed by water erosion and standing water, including stormwater, floodwater, domestic waste water and wastewater from medical facilities are minimized.

### Waste management is becoming one problem in the emergencies. Why?

An emergency is a sudden and unforeseen event that calls for immediate measures to minimize its adverse consequences. Emergencies may force people to move away from their home. Emergency situations can generate large quantities of solid and liquid wastes that threaten the public health, hinder reconstruction and impact the environment. Wastes in emergencies comes from domestic garbage like food waste, ash, packaging materials, human faeces, plastic bottles and medical wastes from health facilities. A particular is that of Saharawi refugee camps (s. Algeria), people produce 0.15kg/day per capita of solid waste with density of 170kg/m3, constituted for about 95% of packing. Unfortunately the current waste management practice often involve either no action in which the waste is left to accumulate and decompose or improper action in which the waste is removed and dumped in an control manner. The accumulation of waste can cause;

* Increasein disease transmission or otherwise threaten public health. Rotting organic matter pose great public health risks including serving as breeding sites for disease vectors.
* Contaminate groundwater and surface water as well as blocking drainage leading to accumulation of stagnant water which is a breeding site for mosquitoes.
* Great greenhouse gas emission and other air pollutants as it is rotting due to production of methane.
* Causes injuries.

Therefore proper and safe management of waste is essential for the survival and well-being of people even in emergency situations. Unfortunately waste management has become a problem in emergencies because of the following;

Lack of waste management system in place. The system is responsible for the designing and implementing safe disposal means. In emergencies this system is always not there which affects proper waste management.

Inadequate waste collection facilities. The households and public places always lack waste collection facilities which leads to poor collection and disposal method.

Poor disposal methods. In emergencies the most commonly used disposal methods are open and uncontrolled dumping. This makes the refuse to pose health risks since it pollute the surface water sources and harbor mosquitoes and flies.

Lack of sense of ownership. The affected lack sense of ownership. One of the interviewee at Saharawi camps described the problem of littering as being a loss of sense of ownership of the living space. The area immediately outside displaced people’s homes would be kept tidy but the public spaces were not theirs and the responsibility belonged to others.

Inadequate recycling and treatment. In emergencies, there is little recycling and treatment initiative which makes the waste poisonous since it is not treated or recycled an allowed to accumulate.

Inappropriate siting, design, operation or maintenance of dumps and landfills. Dump sites located near or within the settlement which is inappropriate because it can harbor vectors and pollute the surface water sources posing health risks.

Inadequate landfills disposal area. There is no enough space for the landfill burial of refuse which force them to use open disposal or burning which has its health and environmental problems like air pollution and harboring mosquitoes and rodents causing diseases.

Inadequate service coverage. In emergencies, service delivery is not enough and some part of the affected people especially the isolated groups not get access to the facilities like bins hence poor waste management.

Inappropriate cultural norms and practices. Some groups of the affected people have cultural practices like using toilets for defecation which makes waste management a problem.

Operational inefficiencies of services. The service deliveries in emergencies are insufficient because is characterized by difficult in evaluating and choosing the most appropriate method solution with respect to the specific operating conditions.

Lack of knowledge and information. The affected people normally lack knowledge and information about the proper methods of reuse management.

Unavailable transport services. This make the collected waste not to be transported to the disposal sites making it to decay at the collection points within the affected people’s dwellings.

#### Discuss how the environmental health and sanitation affect the nutritional status of the vulnerable groups.

Vulnerable groups are individuals at greatest risks of diseases and injuries. They include women, children, old people, physically and mentally disabled people, people living with HIV/AIDS, infants, refugees of displace people scattered among the host communities and people either separated from or without access to the main focus of the relief assistance. Access to safe drinking water, sanitation and hygiene service is a fundamental element of healthy communities and has an important positive impact on nutrition. An estimated 2.4 billion people lack access to improve sanitation, an estimated 663 million people worldwide have no access to an improved drinking water sources (UNICEF/WHO, 2015). Nearly all these sanitation deficiencies are among the vulnerable groups which has nutritional impact as below.

Poor environmental health and sanitation has led to under nutrition among the vulnerable groups. Under nutrition occurs the body’s requirements for nutrition are not met as a result of under consumption or impaired absorption and use of nutrients. Under nutrition is a major cause of disease and death affecting billions of people worldwide especially women and children. Under nutrition is caused by among many factors drinking contaminated water, poor sanitation and hygiene. Under nutrition in all its forms is estimated to contribute to 3.1 million child deaths each year, accounting to for 45% of all deaths of children under five years of age. (WHO, 2014).

Poor environmental health and sanitation has led increased cases of intestinal parasitic infections among the vulnerable people. Soil-transmitted helminthes infections (roundworms, whipworms and hookworm) are directly caused by poor sanitation. Their eggs and larvae can survive for months in the soil and can infect human when ingested via contaminated water or food, by contact with the skin when walking barefoot on contaminated soil which is common in children. Soil-transmitted helminthes infections can affect nutritional status by causing malabsorption of nutrients, loss of appetite and increased blood loss. Hookworm’s infections are the major cause of anemia in pregnant women and children.

Poor environmental health and sanitation has led to increased cases of diarrhea among the vulnerable groups. Poor sanitation and the absence of safe means of excreta disposal often results in individual’s households and the environment becoming contaminated with pathogen-ridden human faeces which when passed through the feacal-oral transmission route, cause diarrhea. Diarrhea is the leading cause of mortality and morbidity in children under 5 years of age. Diarrhea affects nutritional status by causing loss of appetite, malabsorption of nutrients, and increased metabolism contributing to chronic malnutrition.

Environmental Enteropathy. Enteric pathogens can impair nutritional status even in the absence of symptoms like diarrhea. Children living in poor sanitary conditions are exposed to high load of pathogens especially between 6 months and 2 years of age when they start crawling on the floor and putting objects into their mouths. Chronic ingestion of pathogens can cause recurring inflammation and damage to the gut leading to malabsorption of nutrients, leaking mucosa, poor villi functioning.

With 165 million children suffering from chronic under nutrition and 52 million suffering from acute malnutrition, improving environmental health, water quality, sanitation and hygiene in the context of nutritional programming offers one important opportunity to change this.

##### **Assuming you have been appointed to head an organization dealing with health development in your area, describe the critical factors you will consider in planning for health service in that area.**

Health service planning aims at improving the health status of a given population while safeguarding equity and fairness of access as well as responsiveness of the health system to the perceived needs of the community. The following factors are to be considered when planning health service in an area.

Community factors. The most important factor to consider is the community’s uniqueness. A community can be defined by its geography, level of development, culture, population, demographic, economics and politics. Given the manifold nature and nuances of these attributes, to fully understand a particular society, it is important to do two things. First connect to the people of the community to develop an understanding of their needs. One must seek out knowledgeable locals and local leaders for guidance. Secondly, do research (eg a survey, using local community forums) to appraise the community’s unique local, level of development, view of medicine, traditional healthcare practices, social structure, political and economic viability. Both of these approaches are needed to ensure that the healthcare is designed to meet the community’s needs. For instance, an understanding of traditional beliefs and practices can provide an insight into how modern medicine might be uniquely integrated into such community practices. The environment that surrounds a community can also vastly affect the delivery of healthcare, geographical isolation can be a barrier to healthcare access and delivery. The economic and political aspects of a community may come into play with healthcare delivery. They also impact what type of healthcare system and services are available and also who is serviced. For instance, if a society is composed of mostly senior citizens, then there will a demand for more care homes, elder care and providers.

Healthcare Workforce education. The next of factors to consider revolves around healthcare providers in the community. The professionals involved in the actual delivery of healthcare need to be sensitive to a community’s particular culture and needs. Often healthcare providers who were raised in that community can lead this effort. Training needs to be ongoing to keep everyone up to date on recent advances and technological innovations. There is a need of a larger oversight and organization within regions in the event of large-scale contagion or emergencies. Personnel needed to run hospitals, clinics and other services including administrators, doctors (both generalists and specialists), emergency medical technicians, nurses, orderlies and security. Different communities will require different ratios and amount of these positions. This depends on that population’s make-up and situation.

Material factors. Consider the availability of medical facilities, tools and supplies can impact the quality of service provided. Tangible things like hospital beds, operation rooms and laboratories are needed. Imaging equipment including x-ray machines, computerized axial tomography (CAT). Other essential equipment include vital monitoring machines, respirators, medical supplies like drapes, trays, scalpels, gauze, bandages, splints and sutures are also required. Medicines like antibiotics, coagulants, anti-inflammatories, vaccinations, blood are also needed.to be in stock as well as the ambulances to transport the patients to the medical facilities in time is also needed.

Financial factor. For the above listed items and considerations to be in place and made possible, the finance must be considered.

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